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A new species of Ptychoptera (Diptera: Ptychopteridae) from Tongaland

by

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SYNOPSIS

Ptychoptera kosiensis sp. n. is described on specimens from a swamp-forest in the Kosi Lake area of Tongaland. It is closely related to *P. capensis* Alexander, a species occurring in montane forests in eastern South Africa.

The small nematocerous family Ptychopteridae is represented in Subsaharan Africa by five species which are distributed in the following way (Freeman 1952, Hutson 1980):

P. africana Alexander: Nigeria, Angola, Uganda, Zaïre
P. camerounensis Alexander: Cameroon
P. capensis Alexander: South Africa
P. matongoensis Alexander: Tanzania
P. uelensis Alexander: Zaïre, Zimbabwe, Uganda

Freeman (loc. cit.) refers to the generally similar appearance of *Ptychoptera* species and the variation in colour that led him to synonymise five other described Afrotropical species. He stresses the value of the male genitalia for specific identifications in this genus.

The only South African species known until now has been *P. capensis* Alexander, which is represented in the Natal Museum collection by specimens from a series of localities ranging from Barberton in the eastern Transvaal to Döhne in the eastern Cape Province. All these localities are montane with relatively high rainfall. My experience of collecting this species indicates that it prefers swampy or muddy places adjacent to or inside indigenous forest. Shaded pools with boggy, overgrown margins are especially suitable. Collecting records from Town Bush, Pietermaritzburg, reveal that the imaginal stage may occur throughout the summer.

The type-locality of *P. stuckenbergi* Alexander (a synonym of *P. uelensis*) is in the Inyanga Mountains of eastern Zimbabwe, so it also appears to be a montane species. Indeed, the records for all the Subsaharan *Ptychoptera* species show that montane forest (including gallery forest) is the preferred habitat, and my experiences of collecting *Ptychoptera* in Madagascar are that the species there similarly occur in such a habitat. It was thus unexpected when a new *Ptychoptera* was found recently in 'swamp-forest' close to sea-level on the coastal plain near Kosi Lake. The term 'swamp-forest' is used in that region for forest growing in shallow valleys along streams of low gradient, in which pools, soggy ground and a deep, rotting litter layer are typical. The specimens were collected from herbage in dense shade.

This new species contrasts obviously with *capensis* in being darker in both sexes, but the similarities in hypopygial structure show that they are in fact sister-species. Drawings by Freeman (loc. cit.) reveal that *uelensis* and *africana* are not related closely to these two. Freeman considers that *matongoensis* is possibly conspecific with *uelensis*. The relationships of *camerounensis* are indeterminate as only the female is known, but its colour pattern and occurrence on Mt Cameroon suggest that it is not closely related to the South African species. Freeman (op. cit., p. 42) notes that the dististyles of *capensis* are unlike those of other Subsaharan species, and most resemble those of the palaearctic *P. albimana* Fabricius.

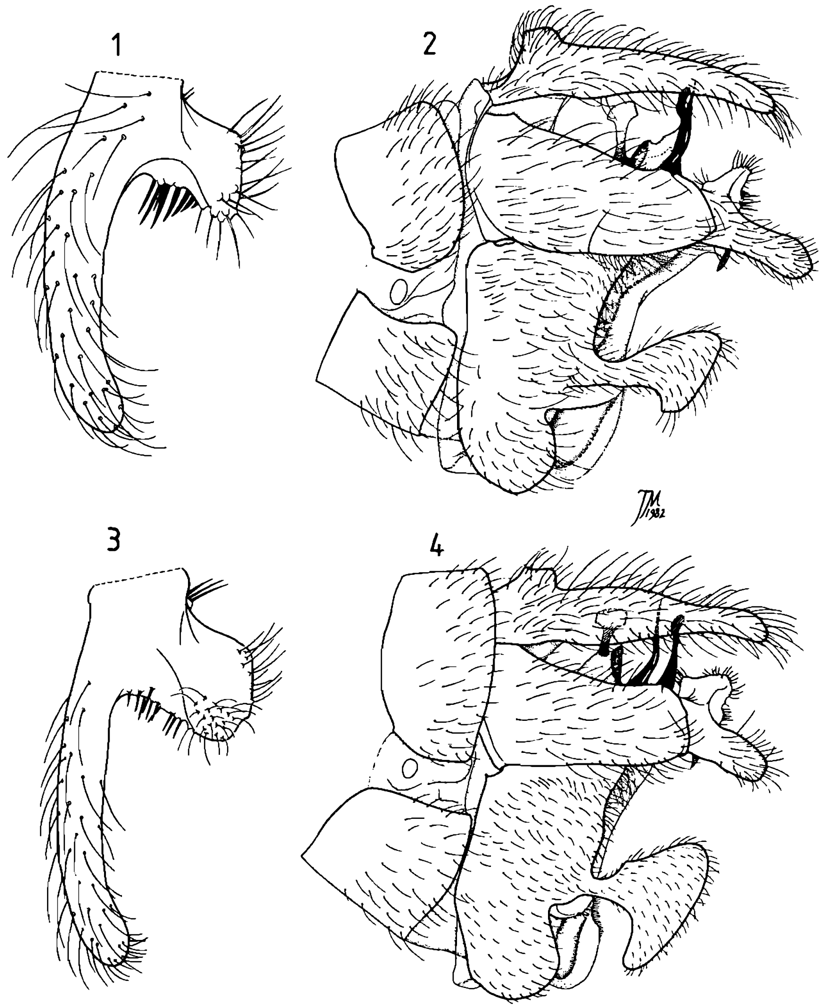
Ptychoptera kosiensis sp. n.

A species in which the male has a bicolorous thorax (dark mesonotum, paler pleura), and the abdomen brownish-orange with dark markings only on tergites 1, 2 (at apex), 5 and 6. The female is almost uniformly blackish-brown, with the wing patterned as in Fig. 5. Hypopygium very similar to that of *capensis*, but dististyles and projection from 9th tergite differ in shape.

♂ *Holotype:* Frons blackish-brown; clypeus yellowish-orange; scape dull pale yellowish, pedicel brownish; first flagellomere coloured like scape, others progressively darker brown. Mesonotum dark brownish-black, scutellum dull yellowish-brown. Pleura brownish-orange, coxae brownish; femora dull yellowish, apex narrowly darkened; tibiae and tarsi brownish. Postscutellum shining blackish-brown.
Abdomen: tergite 1 shining dark brown, 2 brownish-orange except darkened apical fifth, 3 and 4 brownish-orange except for narrowly darkened hind margins, 5 and 6 dark brown, hypopygium dull orange. Genitalia as in Figs 1–2; subpetiolate projection from tergite 9 relatively smaller, narrower, less strongly constricted basally, than in *capensis* (Fig. 4); dististyle (Fig. 1) finger-like, slightly curved, with basal extension on inner side that bears about 9 spine-like setae in a group (in *capensis*, Fig. 3, dististyle with basal projection of different shape and bearing much weaker setae). Wing membrane palely fumose, yellow-tinged in costal and subcostal cells; fork of R_{2+3} and R_{4+5} each surrounded by a brownish spot, a brownish cloud extending around cord; macrotrichia well developed in distal cells; veins dark brown. Wing length 7,9 mm.

♂ *Paratype:* Resembling holotype, slightly teneral and not as strongly coloured or as fully patterned on the abdomen. Frons thinly blackish-brown, in some positions almost concolorous with clypeus; mesonotum not uniformly dark, but obscurely reddish-brown in irregular patches; postscutellum concolorous with pleura, except for dark brown median vitta; abdomen brownish-orange except for median dark brown line of irregular width on tergite 1. Wing length 7,3 mm.

♀ *Paratype:* Obviously darker and more robust than male; entire thorax, and abdomen except cerci, blackish-brown, mesonotum especially dark; clypeus and cerci reddish-brown; femora dark yellowish-brown, short apical section darkened,



Figs 1–4. 1–2. *Ptychoptera kosiensis* sp. n. (1) diststyle, dorsal view; (2) hypopygium, lateral view. 3–4. *P. capensis* Alexander; (3) diststyle, dorsal view; (4) hypopygium, lateral view.

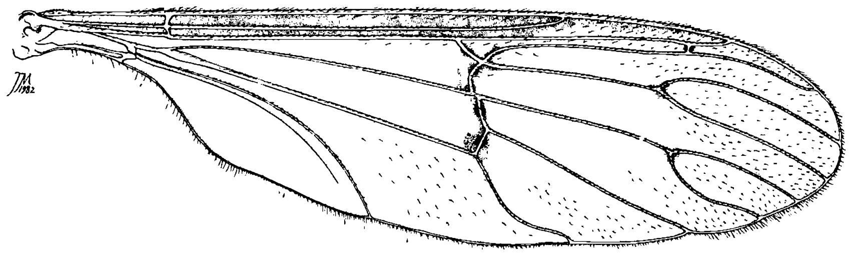


Fig. 5. *Ptychoptera kosiensis* sp. n., wing of female paratype.

legs otherwise dark brown; wing (Fig. 5), greyish-fumose, costal and subcostal cells yellowish-brown, a distinctive pattern of clear areas in the membrane as shown. Wing length 8,3 mm.

Material examined: Holotype ♂, 1 ♂ 1 ♀ paratypes: SOUTH AFRICA: *Natal*, Tongaland, Makaheli Forest, *c.* 5 km NE Mangusi (2632Dd), 30.xi–2.xii.1982; Barraclough, Londt, Stuckenberg. Natal Museum Type No. 2603.

Ptychoptera capensis Alexander

Ptychoptera capensis Alexander, 1917, *Ann. S. Afr. Mus.* **17:** 139.

This species shows relatively little colour variation. Several males in the Natal Museum are entirely pale orange except for irregular darkening apically on tergites 2–4, and dark brown over all of tergites 5 and 6; in addition, each femur is darkened over a short apical section. Evidently with increasing maturity the flies darken to a more reddish orange, and dark brown linings appear along the mesonotal suture and supra-alar edges. Some specimens have an irregular darkening transversely across the mesonotum in addition to more intense darkening of the lateral edges; one specimen has a dark brown median vitta that widens posteriorly then tapers rapidly and terminates before the posterior mesonotal margin. The abdominal pattern shows insignificant variation. The hypopygium is illustrated in Figs 3 and 4.

The female is similarly coloured, except that there is more extensive irregular darkening on tergites 3–5. The wing has no pattern of pale areas.

The type-locality of *capensis* is M'Fongosi in the Tugela River valley; probably the specimen was from the Qudeni Forest on the heights overlooking that part of the valley. Material in the Natal Museum collection is from the following localities: *Natal:* Pietermaritzburg, Town Bush (October, December, March, April); 17 km E Mooirivier, 20.ii.1983 (J. Manning). *Transvaal:* Barberton, Stentor, 23.viii.1924; Barberton, De Kaap, 19.iv.1920, (H. K. Munro). *Cape Province:* Döhne, 22.xi.1921, 21.xii.1921, H. K. Munro. In addition, I have also found the species at the Ngome Forest, Vryheid District, and in gallery forest near Eshowe, both places in Natal.

ACKNOWLEDGEMENTS

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